



# Transition to Operations Activities to Support CYGNSS

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# Short-term Prediction Research and Transition (SPoRT) Center

**SPoRT is focused on transitioning unique NASA and NOAA observations and research capabilities to the operational weather community to improve short-term weather forecasts on a regional and local scale.**

- close collaboration with numerous WFOs and National Centers across the country
- SPoRT activities began in 2002, first products to AWIPS in 2003
- co-funded by NOAA since 2009 through satellite “proving ground” activities

**Proven paradigm for transition of research and experimental data to “operations”**



## **Benefit**

- demonstrate capability of NASA and NOAA experimental products to weather applications and societal benefit
- prepares forecasters for use of data from next generation of operational satellites (JPSS, GOES-R)



# Partnerships with NOAA



Over 30 NWS WFOs  
and All Regional  
Headquarters



NOAA Cooperative Institutes  
as Data Delivery and  
Product Development Partners



National Centers  
for Environmental Prediction

Environmental Modeling Center  
National Hurricane Center  
Weather Prediction Center  
Ocean Prediction Center  
Aviation Weather Center  
Storm Prediction Center

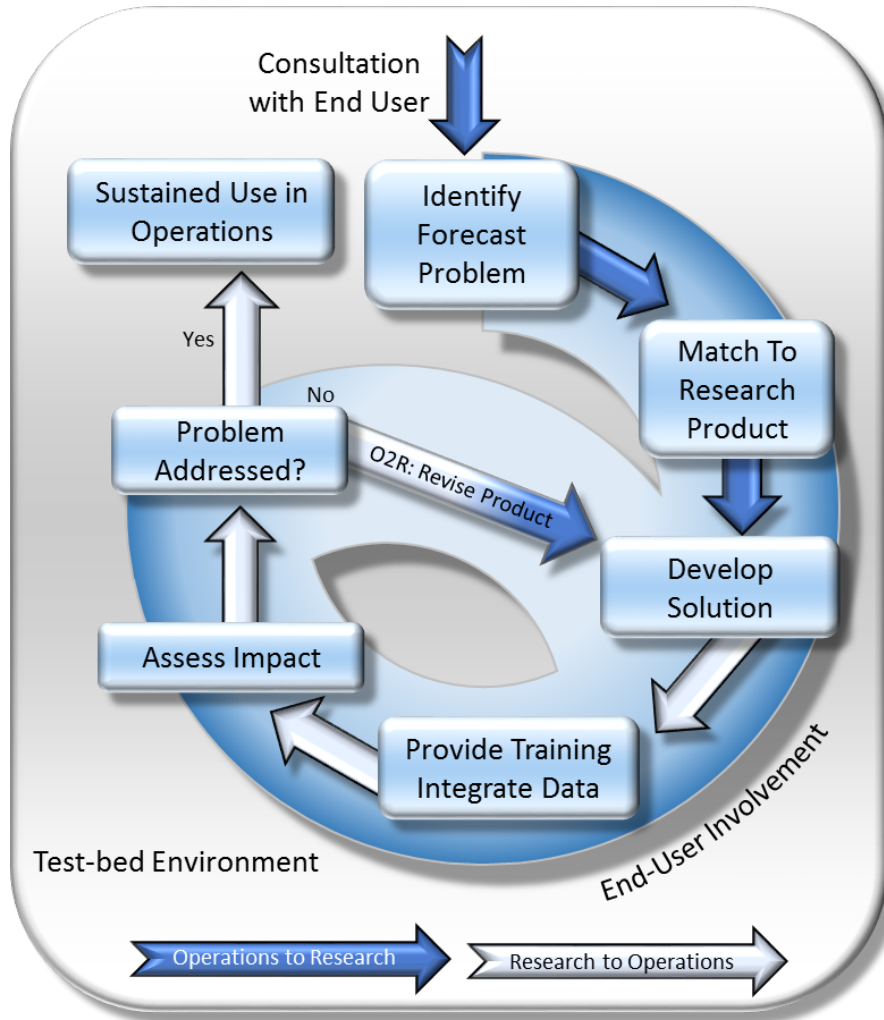
## Legend

- Product Development Partner
- National Center Evaluation Partner
- NWS Regional Headquarters
- WFO Collaborative Partner

**SPoRT collaborates with NOAA Cooperative Institutes to develop and distribute products to partnering NWS WFOs and National Centers, providing unique observation and modeling capabilities to support their daily forecasting operations.**



# SPoRT Paradigm for R2O and O2R Success



## Keys to success

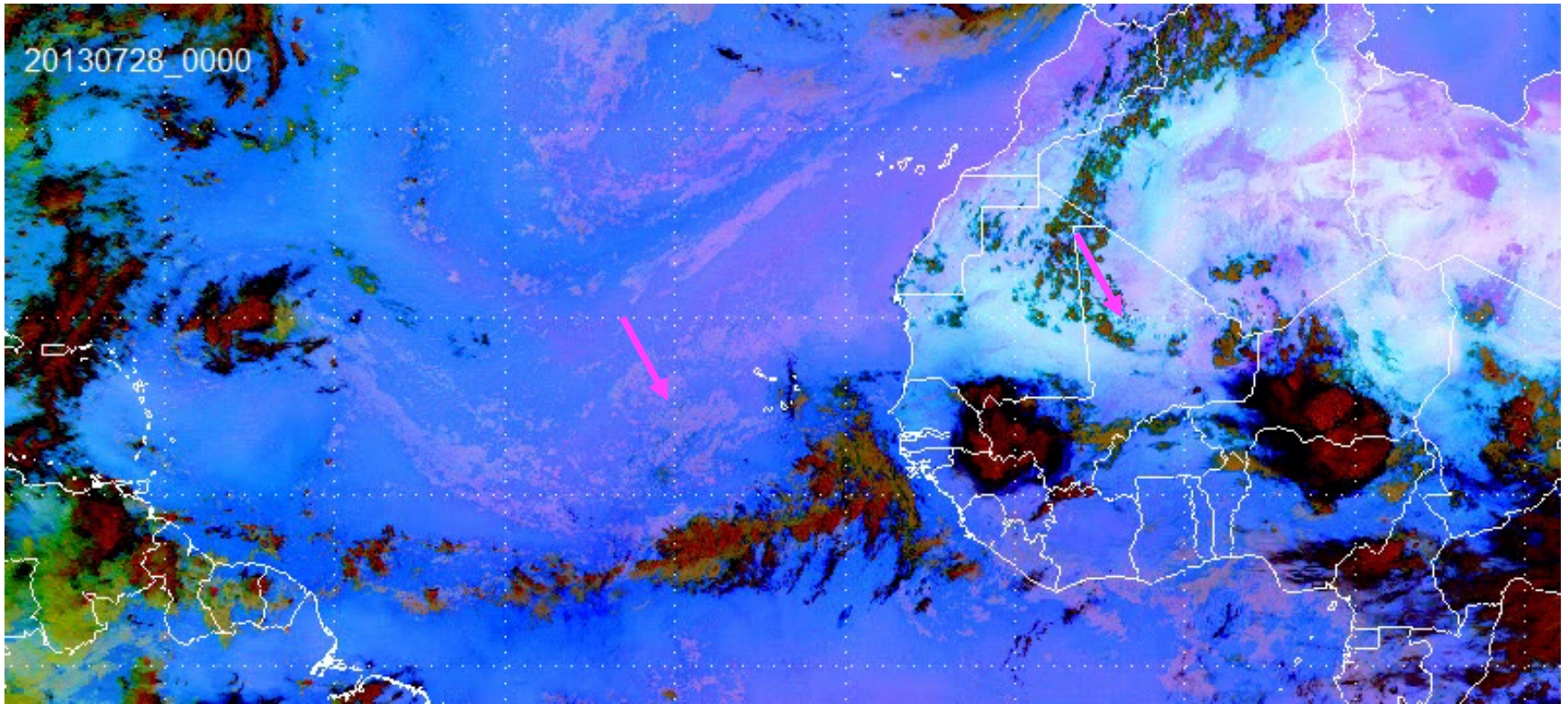
- Involve end user in entire process
- Develop end-user appropriate training
- Assess impact of solution on operations
- Incorporate feedback as part of the O2R process

A successful transition occurs when a new capability has a predominately positive impact on the forecast problem and is used “operationally” in the end users decision support system.

“Operational” use means regular or sustained use of data / products to make decisions

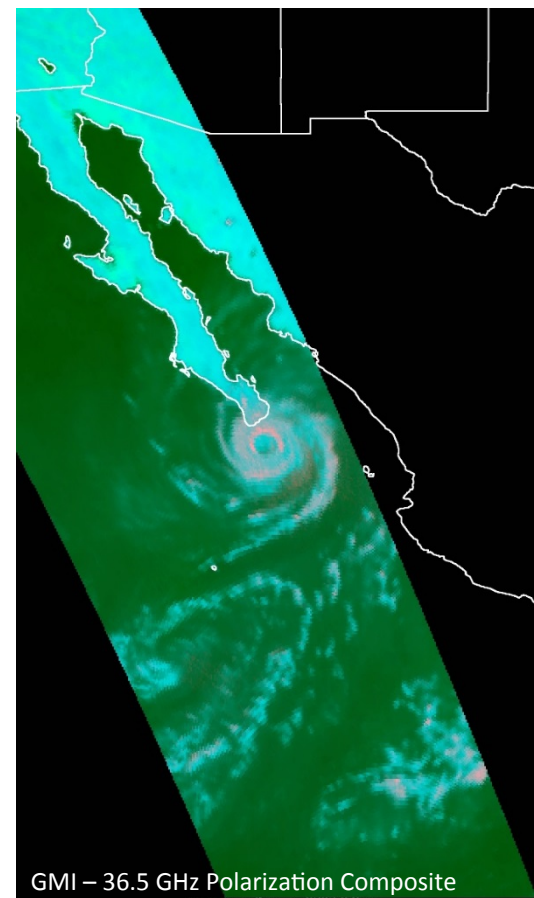
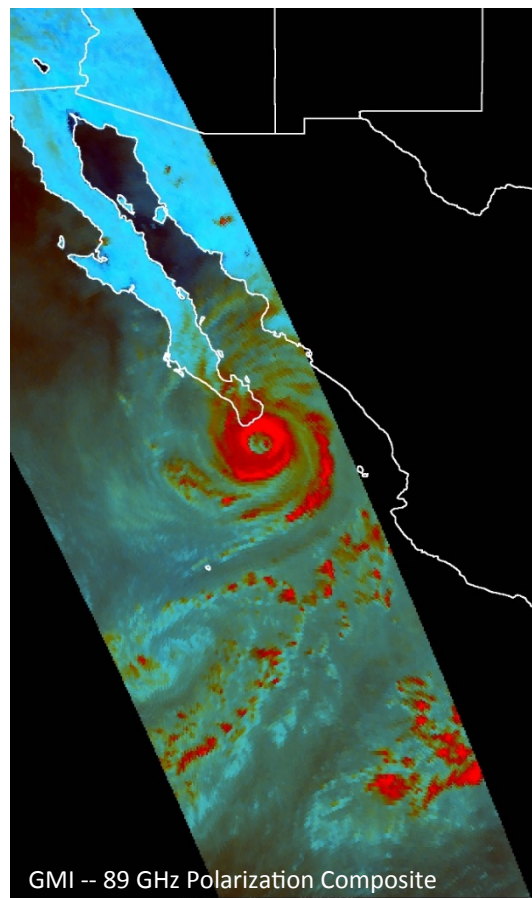
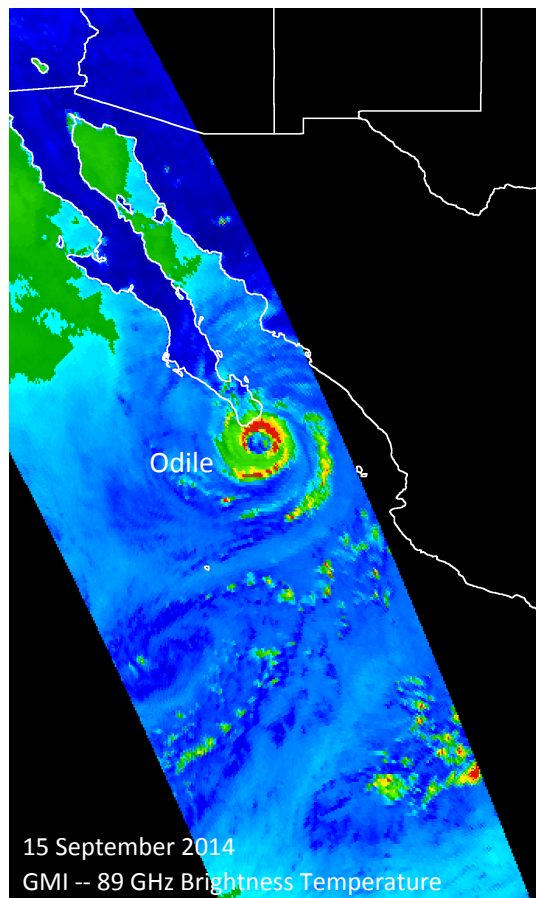


# Collaborations with NCEP / NHC



*While MODIS and VIIRS observations provide new products to CONUS and OCONUS users, similar products are available from Meteosat-10/SEVIRI. Here, the RGB dust product is made available to WPC, OPC, TAFB, and NHC to help users in identifying dust within the Saharan Air Layer. Current Meteosat-10 data assists with today's forecasts while preparing users for GOES-R.*

# Collaborations with NCEP / NHC



*NASA observations from the Global Precipitation Measurement mission's core satellite provide polarized passive microwave brightness temperatures (left) that can be combined in RGB composites to better depict the structure of tropical cyclones, similar to imagery from NRL. These products are provided to NHC and OPC for operations.*

# Support for CYGNSS

- Wind speed measurements from CYGNSS will provide value to operational forecasters if delivered in a timely manner.
- SPoRT can assist the CYGNSS team with R2O:
  - Providing guidance on data formatting and metadata to ensure usefulness at operational centers – especially as early proxy data formats are made available.
  - Developing new visualization capabilities for AWIPS II Decision Support System, as needed.
  - Coordinating feedback between product developers, science team, and end users on improvements.



# Support for CYGNSS

- SPoRT is also engaged in a variety of relevant data assimilation activities:
  - As terrestrial applications mature, incorporate any land surface measurements within the NASA Land Information System to improve NWP and analysis fields.
  - Investigate the impact of CYGNSS, other wind measurements, and NASA mission data on data assimilation systems used in operational NWP.
- Beyond weather:
  - Partner with CYGNSS end users outside of the weather community to provide training on the use of products in their application areas.





# Questions?

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